3. Circulation

Existing Conditions

This section of the design plan focuses on existing circulation patterns and characteristics of the West Tefft Street area in detail. Many deficiencies exist along West Tefft Street, as expressed by public input. Deficiencies that were identified at the initial workshop were as follows:

1. The lack of continuous sidewalks makes walking an unsafe travel option for residents of the community.
2. The lack of clearly marked bicycle lanes creates a hazard to bicyclists who would like to access the area.
3. High travel speeds along West Tefft need to be reduced to a safer level.
4. Traffic congestion at peak times is a major problem.
5. The lack of local public transit reinforces the need to use an automobile to access the area.

One of the major problems that were identified by the public in preparing this plan is the traffic congestion that occurs along West Tefft Street at peak hours. With few streets connecting to West Tefft and only one interchange within Nipomo to handle access to Highway 101, drivers have no choice but to use West Tefft to access Highway 101. Adding to the congestion at West Tefft and Highway 101 is that highway on- and off-ramps are adjacent to the South Frontage Road intersection, so that traffic cannot be synchronized for maximum efficiency. Five turning opportunities are present at the current interchange making left turn movements difficult during peak hours. Pedestrians and bicyclists experience difficulty crossing over the interchange at peak hours.

West Tefft Street traffic is typically fast compared to the 35 mile-per-hour speed limit, and it creates noise and visual disruption for pedestrian comfort. Further from Highway 101, vehicle speeds that are at or greater than the 45 miles-per-hour speed limit create a highway condition that is contrary to a large-scale downtown. The width of pavement and its un-vegetated edges contribute to its appearance as a highway. In addition, pedestrian access is impaired due to sidewalks ending abruptly. Future conditions along the edge of West Tefft Streets will deteriorate as traffic increases, unless sidewalks are separated from curbs and traffic by parkways and street trees, and new buildings offer pedestrian access from the sidewalks.

The only defined crosswalks are located at the intersections of West Tefft and South Frontage Road and Mary Avenue, making crossing the busy street elsewhere unsafe and at times nearly impossible. Bike lanes are absent as well, making the use of alternative transportation modes a dangerous choice. Furthermore, there are no public transit stops, forcing anyone wanting to travel through the area to use a car, which adds to the previously mentioned congestion. The need for West Tefft to serve

as the major street for cars is a challenge to, on one hand retain Nipomo's rural character and to provide a more pedestrian-friendly downtown environment.

Both Mary Avenue and Blume Streets are not connected to residential neighborhoods south of West Tefft Street, forcing traffic to be routed in a wide, circular detour before coming to the desired destination. The abrupt endings of Mary and Blume also deny West Tefft Street any optional routes for vehicles to alleviate the congestion pressure during peak hours. The current layout of the streets lacks the efficiency of a grid pattern, which is considered to assist in smooth traffic flow as drivers are given more choices.

Projected Conditions and Recommendations

To address these conditions, an engineering consulting firm, TPG Consulting, Inc. prepared the West Tefft Street Corridor Study in 2003 for the Public Works Department, from which the full report may be obtained. The Executive Summary and images from the report are reproduced below:

West Tefft Street Corridor Study

The West Tefft Street Corridor Study assesses the existing and future traffic impacts between Orchard Avenue and Oakglen Avenue. In the long term, traffic is projected to increase nearly 75%. Current daily volumes on Tefft Street range from 7,000 vehicles near Thompson to over 15,000 vehicles near Mary. In the future, daily traffic volumes will range between 12,000 and 26,000 vehicles at build-out near 2025. Of particular concern will be the segment between Oakglen Avenue and Mary Avenue, which is projected to carry over 26,000 vehicles per day.

The Corridor Study was prepared to assess the traffic impacts associated with the introduction of a median along portions of West Tefft Street, shown in concept in Figures 3-1 and 3-3. In addition, this report reviews several different street configurations designed to reduce congestion on Tefft between Mary and U.S. 101.

The scenarios that were analyzed for this study included:

- Existing (2002) Traffic
- 2025 No Improvements (Option 1)
- 2025 with Addition of a Median (Option 2)
- 2025 with Mary extended to Hill Street and southbound on-ramp moved to frontage road (Option 3)
- 2025 with addition of a median and coordination of traffic signals (Option 4)

The Study intersections analyzed were:

1. Tefft Street at Orchard Avenue
2. Tefft Street at Pomeroy Road
3. Tefft Street at Mary Avenue
4. Tefft Street at US 101 southbound off-ramp/frontage road
5. Tefft Street at US 101 southbound on-ramp
6. Tefft Street at US 101 northbound ramps
7. Tefft Street at Oakglen Avenue

The existing conditions analysis shows that the current levels of service at the study intersections are above the County's adopted standard of "D". In the future, the traffic volumes will increase significantly and will necessitate the installation of a median on Tefft Street to organize ingress and egress along the commercial section of street, and control circulation into the residential neighborhoods to the west.

Table I shows a summary of the current and anticipated levels of service for the street segment and intersections for the various scenarios. Intersections operating or projected to operate below the County of San Luis Obispo adopted level of service standard of "D" are shown in bold. The current conditions evaluation shows that the street segment and the intersections are operating at a reasonable level of service. However, congestion is observed between U.S. 101 and Mary because of the intense retail uses and the lack of controlled access.

The four options considered as part of this study yield differing results. With the expected increase in traffic volumes using the Tefft Corridor, the No Improvement Option 1 shows deteriorated levels of service for the segment and at the southbound off-ramp intersection. Operating speeds would be reduced to approximately 5 miles per hour in the future if no changes are undertaken. Level of service "F" can be expected for the segment between Oakglen and Mary and the intersection with the southbound ramps/Frontage Road. These results are the culmination of lack of capacity to meet the projected demand and the uncontrolled nature of the driveways along Tefft west of U.S. 101.

The introduction of the median results in slightly lower delay at the Mary intersection but more importantly eliminates significant congestion from the uncontrolled driveways. The operating speeds would be reduced to approximately 5 miles per hour in the future but this would be offset slightly from the smoothing of the traffic flow.

Option 3, which proposes the extension of Mary Street to Hill Street, shown in Figure 3-2, provides substantial capacity for Tefft and results in acceptable levels of service at the southbound off-ramp intersection (LOS "B"). The predicted segment speeds increase to 15 miles per hour with either of these options and the intersections will all operate above the County's level of service standard.

The relocation of the southbound on-ramp to the Frontage Road will resolve the most difficult level of service challenge. By moving the entering movements away from the southbound ramps/Frontage Road intersection the level of service at this location is greatly improved. This also translates into a significant improvement in the segment operations with an increase in operating speed to 15 miles per hour.

RECOMMENDATIONS

The following improvements are recommended in order to improve the traffic flow in the area and to maintain the adopted level of service.

1. Extend Mary Street to Hill Street - as soon as possible

2. Install a median from Highway 101 to Pomeroy in phases, as illustrated in Figure 3-1.
    a. Initial phase from Highway 101 to west of Mary – as soon as possible

b. Second phase from west of Mary to west of Blume – in conjunction with the construction of the Blume intersection
c. Final phase from west of Blume to Pomeroy – with the signalization of Gardenia Street

As the median is introduced, full median breaks should be placed at the following locations. Each location should be designed according to the California Highway Design Manual (see Appendix H)

1. At the Mary intersection
2. At the future Blume alignment (new intersection)
3. At the Gardenia intersection
4. At the Pomeroy intersection
5. At the Orchard intersection

In addition to these intersections, partial median breaks (worms) should be placed at the following locations to facilitate access and circulation. Each location should be designed according to the California Highway Design Manual.

1. At the Elvira intersection
2. At approximately mid-point between the intersections of Mary and Blume (approximately Station ± 43+85)

These partial median breaks should be evaluated for closure after the planned street system is completed or as growth in traffic volumes on West Tefft Street necessitate increasing capacity of the arterial. The Circulation Plan in Figure 3-2 delineates these concepts graphically. The proposed typical street section in Figure 3-3 should guide lane configuration and median layout for West Tefft Street between U.S. 101 and Orchard.

3. Develop a coordinated traffic signal system in phases:
   a. Install the initial coordination system for the intersections of Oakglen, Northbound ramps, Southbound off-ramp/Frontage Road and Mary – with installation of the median
   b. Second phase for Blume, Promeroy and Orchard – with the installation of the new signal at Blume and the median

4. Relocate the southbound on-ramp to the Hill Street intersection – as soon as possible

5. Use design standards and guidelines in installing street improvements for West Tefft Street which follow the California Highway Design Manual.

6. The County of San Luis Obispo should adopt Arterial Street Standards for use in urban areas to facilitate their proper operation.

West Tefft Street Standards

Median breaks, driveway locations and right turn lane standards for arterial streets directly affect the performance of West Tefft Street. The following standards have been developed to facilitate the proper operation of urban arterials such as West Tefft Street. These standards have been developed from the California Highway Design

Manual and the American Association of State Highway and Transportation Officials guidelines (Greenbook, 1994).

1. Due to the traffic congestion which results form numerous points of ingress and egress along West Tefft Street, future commercial developments or modifications to existing development should be master planned with limited points of ingress and egress onto the arterial street.

2. Driveways, access points and curb cuts along existing developed arterials should be consolidated when development or change in intensity occurs or when traffic operation or safety warrants. Driveway consolidation should be encouraged through joint access agreements along arterials where these standards are exceeded.

3. Driveway access to major activity centers should be located no closer than 200 feet to the adjacent intersection.

4. The distance between driveways along commercially developed arterials should not be less than 200 feet.

5. Where possible driveways should be located on adjacent streets rather than on arterial streets.

6. Driveways along West Tefft Street to residential property should be discouraged; these properties should receive access from local streets.

7. If driveways must be provided near intersections for facilities (such as service stations) these driveways should not be serviced by median breaks and should be located no less than 50 feet from the intersection and should be separated by 100 feet, if more than one is required to serve a property. (The 50 feet are to be measured edge to edge not centerline to centerline.)

8. Median breaks should provide access to collector streets and to major activity centers and should parallel the standards for driveways: and be located not less than 1000 feet between median breaks.

9. On-street parking should be discouraged along West Tefft Street.

10. Residential development shall be oriented away (side-on or rear-on) from West Tefft Street, so that the traffic carrying capacity will be preserved and the residential environment be protected from the adverse characteristics of the street.

11. Ingress and egress to shopping centers should be carefully designed in order to promote traffic safety. Left-hand movements into and out of commercial areas should be minimized and existing points of ingress and egress shall be consolidated whenever possible.

12. Where possible, intersections shall form 4-leg, right-angle intersections; jog, offset and skewed intersections of major streets in near proximity shall be avoided where possible.

13. In order to promote safe and efficient traffic flow, traffic signals shall be spaced no closer than 1,000 feet on West Tefft Street except in unusual circumstances. The intersections of arterial and collector streets and the access driveways to major traffic generators shall be located so as to maintain this minimum spacing.

14. Where security walls or fences are proposed for residential developments along West Tefft Street, pedestrian access will be provided between the street and the subdivision to allow access to transit vehicles operating on the arterial street.

15. West Tefft Street will be designed to allow transit vehicles to pull out of traffic through the use of either a special bus pull-out or a continuous parking lane with bus stops.

16. Right turn lanes shall be installed where major development is proposed or redeveloped. Location of right turn lanes should be at all major driveways and street intersections. In addition, a continuous right turn lane should be installed both eastbound and westbound between Mary Avenue and the southbound on-ramp or only to the frontage road if ramp relocated.

Implementing the Circulation Plan

The Circulation Plan in Figure 3-2 illustrates the official Nipomo Circulation Map in the South County Area Plan for existing and proposed local, collector and arterial streets in the West Tefft Corridor Design Plan area. To implement the plan, dedications and privately funded improvements will be required of proposed land divisions and new development in accordance with the Land Use Ordinance, the Real Property Division Ordinance, and the planning area standards in Article 9 of the Land Use Ordinance.

TABLE I:
SUMMARY OF EVALUATIONS
WEEKDAY LEVEL OF SERVICE

	Existing		Option 1 - No Improvements		Option 2 - Install Median		Option 3 – Mary Extended w/ramp on Frontage		Option 4 – Median w/coordination	
Corridor Performance	**Total Delay (hrs.)**	**Fuel Used (gals.)**	**Total Delay (hrs.)**	**Fuel Used (gals.)**	**Total Delay (hrs.)**	**Fuel Used (gals.)**	**Total Delay (hrs.)**	**Fuel Used (gals.)**	**Total Delay (hrs.)**	**Fuel Used (gals.)**
	9/31	72/154	214/224	353/370	210/238	385/426	54/44	139/150	164/168	298/317
Arterial Segment	**LOS AM/PM**	**Speed (mph)**	**LOS AM/PM**	**Speed (mph)**	**LOS AM/PM**	**Speed (mph)**	**LOS AM/PM**	**Speed (mph)**	**LOS AM/PM**	**Speed (mph)**
Oakglen to Mary - eastbound	B/C	30.5/25.8	**F/F**	6.9/8.5	**F/F**	7.0/14.0	D/**E**	18.6/15.3	**F**/D	10.3/19.7
Oakglen to Mary - westbound	B/B	32.9/29.9	**E/F**	15.8/11.5	D/**F**	20.3/13.9	D/D	17.0/19.9	D/**E**	18.3/14.0
Intersection	**LOS AM/PM**	**Delay[1] AM/PM**	**LOS AM/PM**	**Delay[1] AM/PM**	**LOS AM/PM**	**Delay[1] AM/PM**	**LOS AM/PM**	**Delay[1] AM/PM**	**LOS AM/PM**	**Delay[1] AM/PM**
Signalized										
Tefft Street at Orchard Avenue	A/A	3.2/3.6	B/B	14.0/16.9	B/B	14.6/18.1			B/C	19.8/22.7
Tefft Street at Pomeroy Road	A/A	2.9/3.7	A/A	4.4/4.9	A/A	5.3/6.5			A/B	7.6/11.0
Tefft Street at Mary Avenue	A/A	4.6/7.3	A/C	8.7/21.3	C/D	34.3/37.7	C/C	20.6/31.2	C/D	29.4/47.1
Tefft Street at US 101 SB off-ramp/frontage road	B/C	10.1/27.1	**F/F**	**227.3/210.1**	**F/F**	**224.1/202.5**	A/B	6.5/18.3	**F/F**	**125.6/127.6**
Tefft Street at US 101 NB ramps	B/B	11.7/12.8	E/C	68.1/26.9	C/A	32.4/23.8	D/B	52.2/10.8	D/C	50.6/22.8
Tefft Street at Oakglen Avenue	A/A	4.0/5.0	A/C	7.8/24.5	B/C	13.9/26.9	C/C	20.4/21.1	B/C	13.2/22.9

[1] *Delay per vehicle in seconds* [2] *Intersection delay in seconds* *mph=miles per hour*

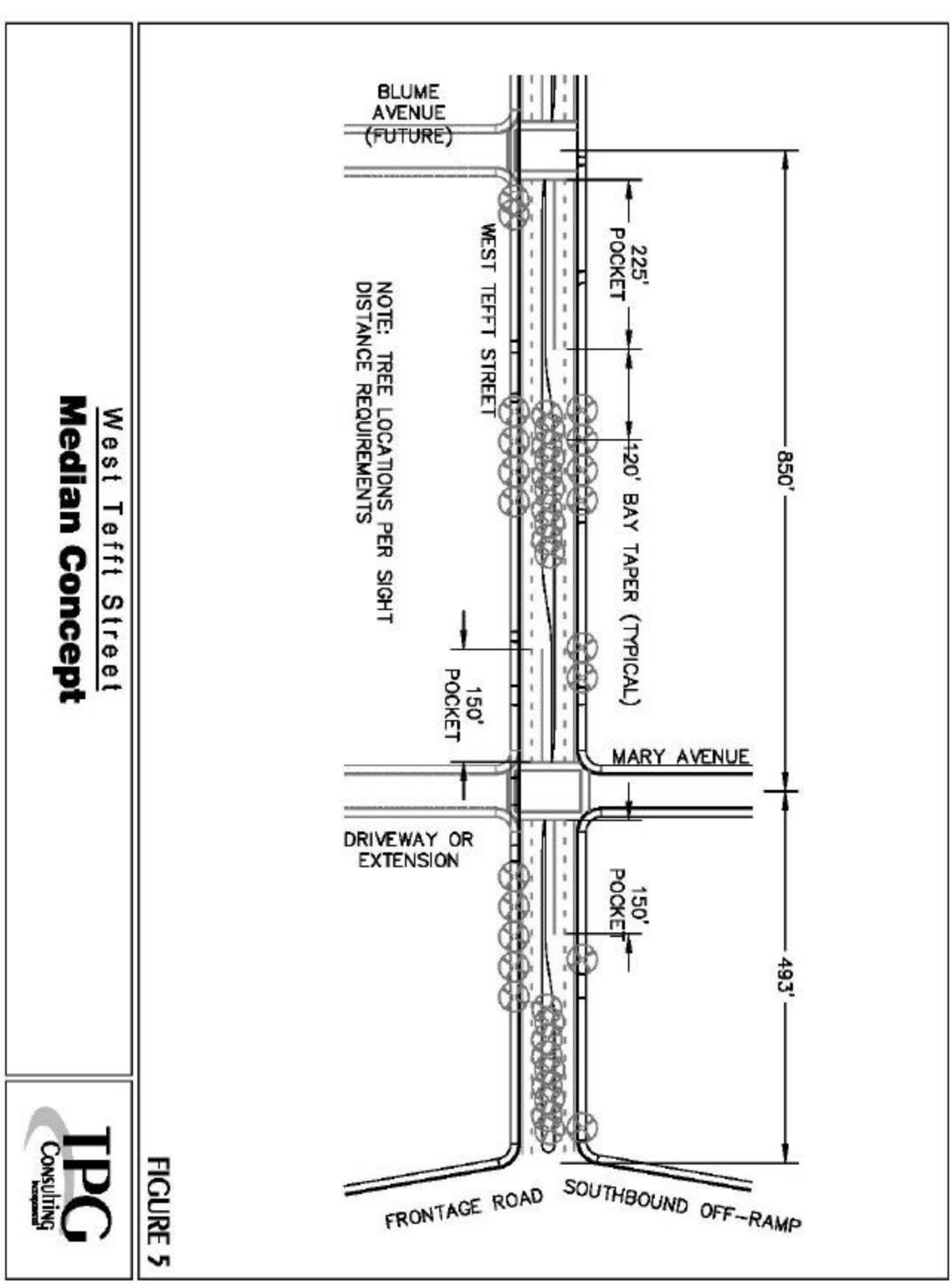

Figure 3-1 *West Tefft Street Median Concept*

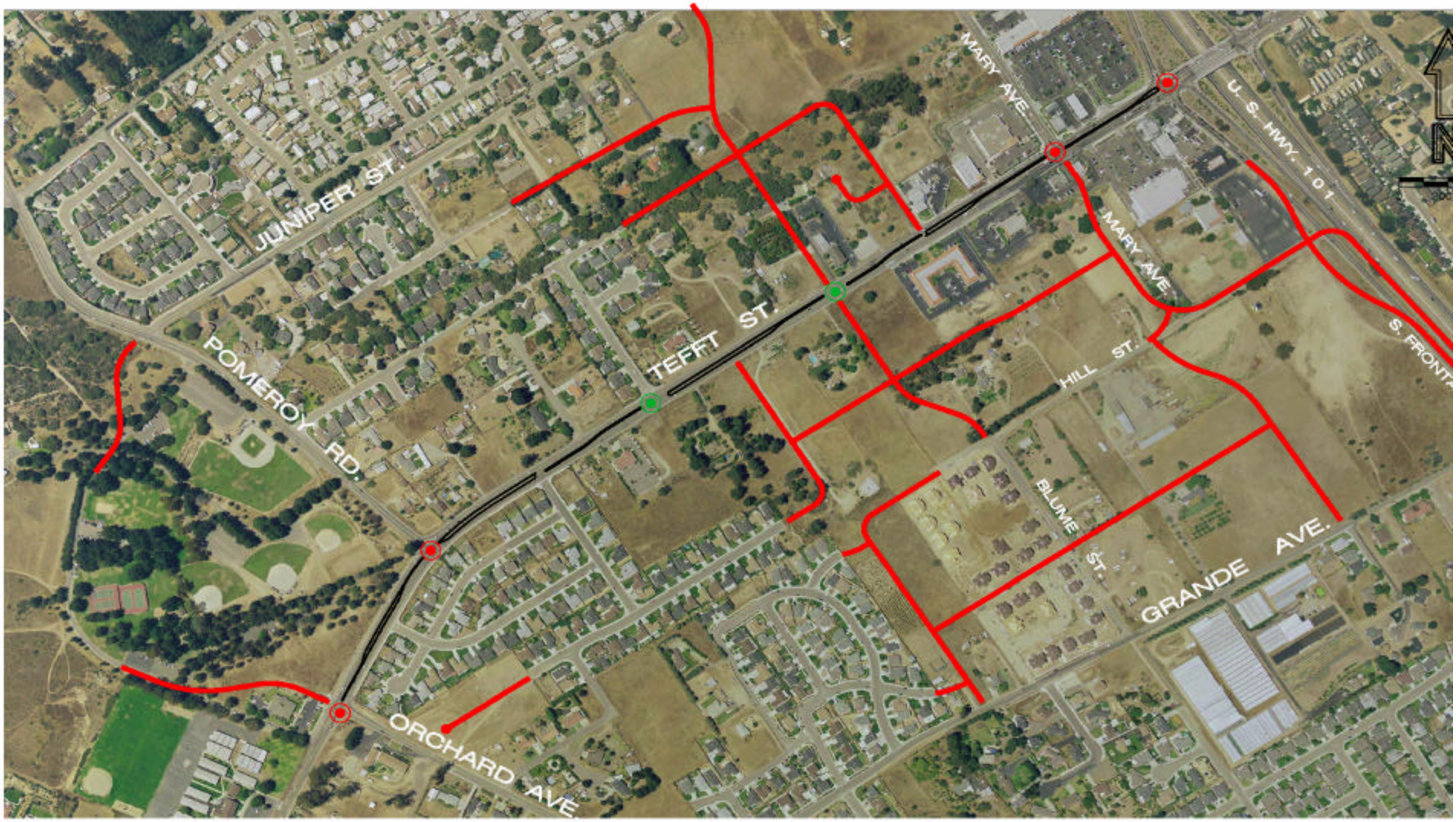

Figure 3-2 *Circulation Plan*

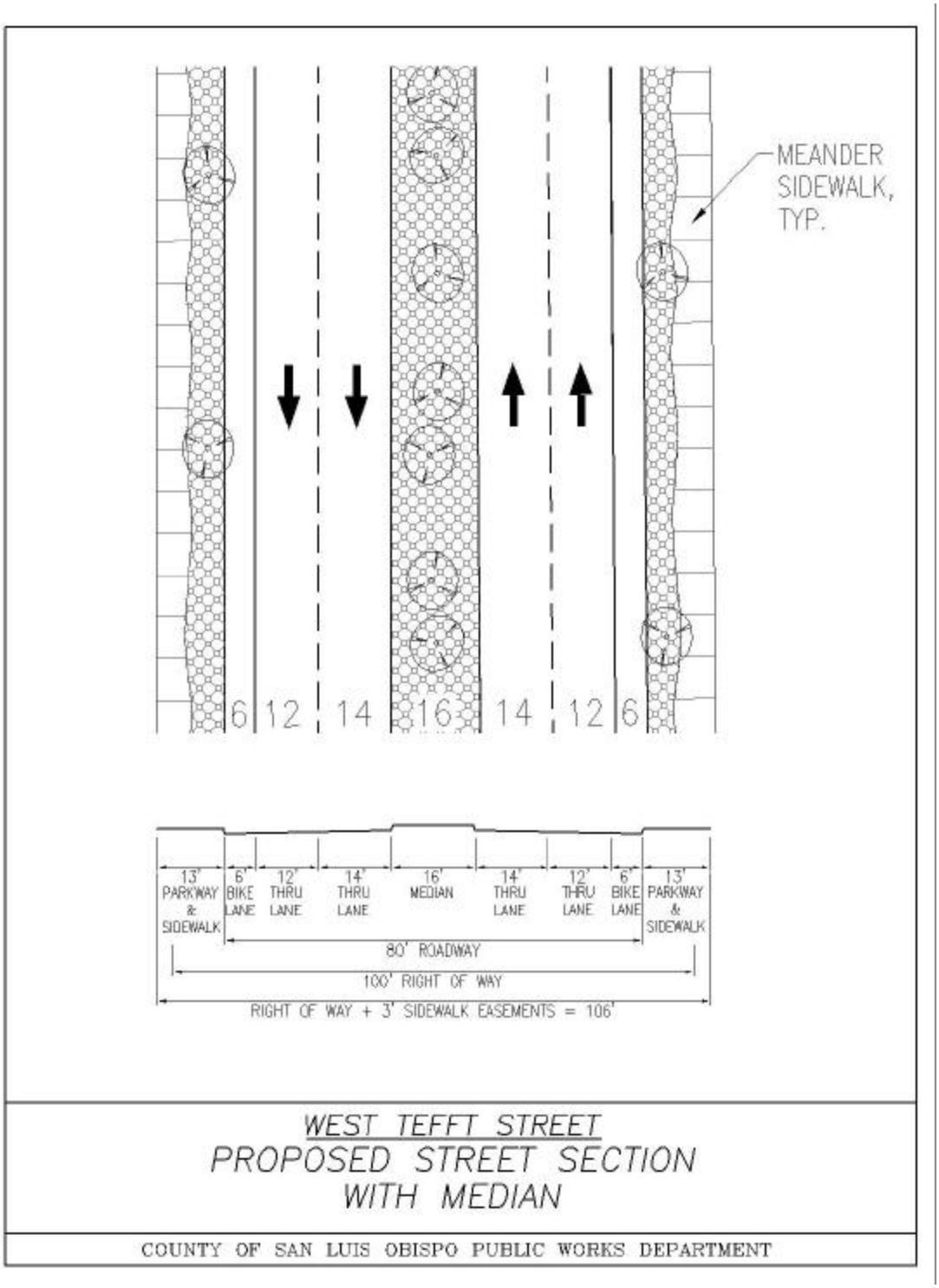

Fig. 3-1 *West Tefft Street Diagram and Section*